



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/646,653	09/18/2000	Hideji Tajima	10287	1830

27683 7590 10/10/2003
HAYNES AND BOONE, LLP
901 MAIN STREET, SUITE 3100
DALLAS, TX 75202

EXAMINER

HANDY, DWAYNE K

ART UNIT	PAPER NUMBER
----------	--------------

1743

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/646,653

Applicant(s)

TAJIMA, HIDEJI

Examiner

Dwayne K Handy

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14, 15, 17-48 is/are rejected.
- 7) ☒ Claim(s) 12, 13 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-11, 18-21, 24, 27 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, applicant has recited the limitation of the nozzle having "divided parts". This limitation is unclear. Are the parts physically separable? Is applicant referring to different areas of the nozzle? Aside from the limitation in the claim, applicant has only mentioned this feature in passing on pages 5-6 of the specification. In this section of the specification, applicant appears to define this feature in terms of their magnetic properties. Since the magnet is not part of the nozzle, it is unclear as to the structure required in the nozzle to meet the limitation of "divided parts".

In claim 5, applicant has claimed magnetic plates that are mounted in a "low and high position". These are relative terms and do not specify a particular location for mounting the plates. In claims 18, applicant has used the term "plank-like". This is unclear. In claims 24, 27 and 36, applicant has used the term "pit-like". Adding the phrase "-like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 10, 14, 22, 23, 25, 26, 28-30, 33-36, 42 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Tuunanen (WO 95/00247). Tuunanen teaches a device and method for separating magnetic particles from a solution. The embodiment most relevant to the instant application is shown in Figures 1-4 and described in pages 4-6. The device (1') is comprised of a plurality of pipetting devices which contains an array of pipette jets (3) in a plane and surrounded by magnetic material (4). The magnetic material has through holes which accommodate the pipette tip. As for the broad limitation of divided parts in claims 4 and 10, the Examiner considers each side of the pipette to be a "divided part" in which each side (or part) of the pipette is close to a magnet of opposite polarity. The device also includes a number of reservoir bodies (5) for storing a fluid and pistons (sliding bodies) for increasing and decreasing pressure within the pipette. Replaceable pipettes are cited on page 5, line 15 and movable magnets are cited on page 5 as well. As to the method claims which cite the limitation of dispensing in an array form (cl. 46), the Examiner believes that simply using the device to mix and dispense fluids as described in claim 1 of the reference meets this limitation since the pipetting device is in the form of an array.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 45-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuunanen (WO 95/00247). Tuunanen, as described in paragraph 3 above, teaches every element of claims 45-48 except for exchanging of elements of the array for the purpose of generating a library of mixed compounds. Tuunanen merely teaches the mixing of materials in a row of magnetic pipettes. It is well known within the art, however, to generate libraries of compounds in an array by substituting rows of the array for each other when mixing or dispensing materials in the array. This is known as combinatorial chemistry. Therefore, the Examiner believes it would be obvious to one

Art Unit: 1743

of ordinary skill in the art to generate compounds by transposing the rows of the array and mixing the materials with the pipetting device.

6. Claims 5, 6, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuunanen (WO 95/00247) in view of Knobel (5,706,062). Tuunanen, as described in paragraph 3 above, teaches every element of claims 5, 6 and 17 except for a second magnetic plate or plurality of magnetic sources. Knobel teaches an analytical device which uses magnetic separation to separate magnetic particles from a suspension. The device is shown in Figures 1 and 4 and includes a lower plate with opposing magnets (41, 42) for magnetically separating materials in the bottom of the reaction vessels. It would have been obvious to one of ordinary skill in the art to add the plate of Knobel to the device of Tuunanen. The addition of another plate with opposing magnets would allow for the formation of two mixing areas in the pipette. One in the lower part of the pipette as shown in Knobel as well as in the upper portion of the pipette as shown in Figure 2 of Tuunanen.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tuunanen (WO 95/00247) in view of Hricak (5,331,807). Tuunanen, as described in paragraph 3 above, teaches every element of claim 15 except for insulation on the magnet. Hricak teaches a combustion engine that uses magnets to mix components in the feed line of the air and fuel lines (elements 28, 34, 48 and 52 in Figures 1 and 4). The magnets have two layers of insulation to protect the magnet from the effects of heat

Art Unit: 1743

(column 3, lines 18-23). It would have been obvious to one of ordinary skill in the art to add the insulation of Hricak to the magnets of Tuunanen. The addition of the insulation would protect the magnets from the environment while still allowing for the application of a magnetic field in the pipette interior.

8. Claims 31, 32 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuunanen (WO 95/00247) in view of Schmitt et al. (6,187,270). Tuunanen, as described in paragraph 3 above, teaches every element of claims 31, 32 and 44 except for the light measuring device. Schmitt teaches a device and method for separating magnetic particles in a pipette tip. Schmitt also teaches a light source (10) and detection element (12) for examining the material in the pipette (Figure 5, column 7, lines 33-40). It would have been obvious to one of ordinary skill in the art to add the light source and detector from Schmitt to the device of Tuunanen. One would add the light source and detector to analyze the material in the pipette.

9. Claims 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuunanen (WO 95/00247) in view of Howe et al. (5,976,369). Tuunanen, as described in paragraph 3 above, teaches every element of claims except for a controller. Howe teaches a magnetic mixing apparatus comprised of a magnet system arranged around the bottom end of a microcentrifuge tube. The magnets are used to separate materials in the tube. In Example 1, Howe discloses that a computer may be used to control all aspects of the system and that this "enables complete procedures to be executed

Art Unit: 1743

unattended". It would have been obvious to one of ordinary skill in the art to add the computer controller of Howe to the device of Tuunanen. The addition of the controller from Howe would allow automation of Tuunanen's device.

Allowable Subject Matter

10. Claims 12, 13, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 12 and 13 recite the limitation of a plate with two different sized holes for accommodating the pipette when loading and unloading them from the plate. Claim 16 recites the use of a ventilator. The Examiner did not find prior art which contained or suggested these features.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tuunanen et al. (5,647,994) is the U.S. Patent of the previously cited WO document. Smith et al. (4,292,920) discloses a magnetic transfer device that uses pins to transfer material. Dodin et al. (4,751,053) teaches a magnetic rod device for transferring magnetic gel balls. Tuunanen (5,942,124; 6,207,463) shows a magnetic rod for separating particles and transferring them to a vessel. Tajima (5,702,950; 6,133,037; 6,231,814; 6,455,325; 6,509,193) teaches magnetic separation and dispensing devices.


Art Unit: 1743

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwayne K Handy whose telephone number is (703)-305-0211. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (703)-308-4037. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0661.

Dkh
September 30, 2003


Jill Warden
Supervisory Patent Examiner
Technology Center 1700